

P **Sambucus nigra**

Common Name(s)

Black Elder, Elder, European Alder, European Elder, European Elderberry

How Used

F

	Chemical Plant Part	Low PPM	High PPM	StdDev	Reference	Citation
0	1-CAFFEOYL-BETA-D-GLUCOSIDE	Plant	--	--		
0	1-CAFFEOYL-BETA-D-GLUCOSIDE	Flower	--	--	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.	
0	1-FERULOYL-BETA-D-GLUCOSIDE	Plant	--	--		
0	2-METHYLHEPTANE	Flower	--	--	Essent. Oil	
0	2-PHENYLETHANOL	Flower	--	--	Essent. Oil	
0	20-BETA-HYDROXYURSOLIC-ACID	Flower	--	--		

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	24-METHYL-CYCLOARTENOL			Flower --	--	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	30-BETA-HYDROXYURSOLIC-ACID			Flower --	--	Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
6	ACETALDEHYDE			Flower -- Essent. Oil	--	
6	ACETALDEHYDE			Leaf --	--	Essent. Oil
0	ALKANES			Flower 210	70000	
0	ALPHA-AMYRENONE			Bark --	178	
10	ALPHA-AMYRIN			Flower --	--	
10	ALPHA-AMYRIN			Leaf --	--	
10	ALPHA-AMYRIN			Bark --	379	
5	ALPHA-AMYRIN-PALMITATE			Leaf --	--	
0	ALPHA-HYDROXYBEHENIC-ACID			Bark --	--	
23	ALPHA-TERPINEOL			Flower -- Essent. Oil	--	
0	ANTIRHININ			Fruit --	--	
0	ARACHIDIC-ACID			Flower --	--	
0	ARACHIDIC-ACID			Seed --	--	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	ARACHIDYL-ALCOHOL		Flower	--	--	
0	ASCORBIC		Plant	--	--	
112	ASCORBIC-ACID		Leaf	739	11000	0.5767397343070575
112	ASCORBIC-ACID		Fruit	128	1515	-0.1902908614886916
0	ASH		Fruit	8600	48765	-0.2045411397200254
7	ASTRAGALIN		Plant	--	--	
7	ASTRAGALIN		Flower	--	--	
0	BALANOPHORIN		Leaf	--	--	
1	BEHENIC-ACID		Plant	--	--	
24	BENZALDEHYDE		Plant	--	--	
24	BENZALDEHYDE		Flower	--	--	
			Essent.			
			Oil			
24	BENZALDEHYDE		Leaf	--	--	
			Essent.			
			Oil			
0	BENZOIC-ACID-ETHYL-ESTER		Leaf	--	--	
			Essent.			
			Oil			
9	BENZYL-ALCOHOL		Flower	--	--	
			Essent.			
			Oil			
9	BENZYL-ALCOHOL		Leaf	--	--	
			Essent.			
			Oil			
9	BETA-AMYRIN		Flower	--	--	
3	BETA-AMYRIN-PALMITATE		Leaf	--	--	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
3	BETA-AMYRIN-PALMITATE	Plant	--	--		
53	BETA-CAROTENE	Fruit	100	150	0.13914666828563477	
53	BETA-CAROTENE	Leaf	150	150	-0.48469717165390036	
0	BETA-CARYOPHYLLENE	Flower Essent. Oil	--	--		
47	BETA-SITOSTEROL	Bark	--	--		
47	BETA-SITOSTEROL	Leaf	--	--		
47	BETA-SITOSTEROL	Flower	--	--		
13	BETULIN	Bark	--	--		
13	BETULIN	Plant	--	--		
22	BETULINIC-ACID	Bark	--	--		
4	BIOTIN	Fruit	0.007	0.009	-1	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
0	BUT-3-EN-2-ONE	Leaf Essent. Oil	--	--		
0	BUT-3-EN-2-ONE	Flower Essent. Oil	--	--		
0	BUTYL-ACETATE	Flower Essent. Oil	--	--		
102	CAFFEIC-ACID	Plant	--	--		
28	CALCIUM	Fruit	235	1440	-0.5575831533309608	
0	CALCIUM-NITRATE	Plant	--	--		
4	CALCIUM-OXALATE	Plant	--	--		

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
2	CAMPESTEROL			Flower	--	--
2	CAMPESTEROL			Leaf	--	--
0	CAPRIFOLIC-ACID			Seed	20000	20000
0	CAPRONIC-ACID			Seed	--	--
5	CAPRYLIC-ACID			Seed	--	--
0	CARQUEOL-ACETATE			Flower	--	--
				Essent. Oil		
0	CERYL-ALCOHOL			Bark	--	--
77	CHLOROGENIC-ACID			Flower	--	26000 -1
1	CHOLESTEROL			Flower	--	--
1	CHOLESTEROL			Plant	--	--
1	CHOLESTEROL			Hh	--	--
20	CHOLINE			Leaf	--	--
20	CHOLINE			Bark	--	--
20	CHOLINE			Flower	--	--
0	CHRYSANTHEMIN			Fruit	--	--
0	CIS-LINALOOL-OXIDE			Flower	--	--
				Essent. Oil		
0	CIS-ROSE-OXIDE			Flower	--	--
				Essent. Oil		
23	CITRIC-ACID			Fruit	500	7340 -0.5315125738760625
2	CONIINE			Leaf	--	--
						ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0 CYANIDIN-3,5-DIGLUCOSIDE	Fruit	--	--			
0 CYANIDIN-3-O-(6-O-CIS-P-COUMAROYL-2-O-BETA-D-XYLOPYRANOSYL)-BETA-D-GLUCOPYRANOSIDE-5-O-BETA-D-GLUCOPYRANOSIDE	Fruit	--	--			
0 CYANIDIN-3-O-(6-O-TRANS-P-COUMAROYL-2-O-BETA-D-XYLOPYRANOSYL)-BETA-D-GLUCOPYRANOSIDE-5-O-BETA-D-GLUCOPYRANOSIDE	Fruit	--	--			
0 CYANIDIN-3-O-(6-TRANS-P-COUMAROYL-2-O-BETA-D-XYLOPYRANOSYL)-BETA-D-GLUCOPYRANOSIDE	Fruit	--	--			
0 CYANIDIN-3-SAMBUBIOSIDE	Fruit	--	--			
0 CYANIDIN-3-SAMBUBIOSIDE	Plant	--	--			
0 CYANIDIN-3-SAMBUBIOSIDE-5-GLUCOSIDE	Plant	--	--			
5 CYANIN	Fruit	--	--			
7 CYCLOARTENOL	Flower	--	--			
1 DEXTROSE	Fruit	25000	30000	-1		
0 EMULSIN	Plant	--	--			
0 EO	Flower	37	3200	-0.31678734503807	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.	
0 ETHYL-AMINE	Flower	--	--			
4 ETHYL-SALICYLATE	Leaf Essent. Oil	--	--			
0 FAT	Leaf	48200	48200	-0.1646373205488591		
0 FAT	Seed	123000	123000	-0.7500063749919659		
0 FAT	Fruit	800	5045	-0.6027187856091647		
0 FATTY-ACIDS	Flower	--	2000		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
61	FERULIC-ACID	Plant	--	--		
15	FIBER	Fruit	63000	392935	2.3709971061121426	
0	FLAVOXANTHIN	Plant	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
8	FRUCTOSE	Fruit	24100	154150	1.574573707912044	
7	GLUCOSE	Fruit	31000	221410	1.454836787583785	
0	GLUCOSIDES	Plant	640	640		
0	HENEICOSANE	Plant	23000	23000	1.4142135620121807	
0	HEPTACOSAN-1-OL	Flower	--	--		
0	HEPTADECAN-1-OL	Flower	--	--		
0	HEPTADECENOIC-ACID	Flower	--	--		
0	HEPTAN-1-AL	Flower	--	--	Essent. Oil	
0	HEX-2-EN-1-AL	Flower	--	--	Essent. Oil	
0	HEX-2-EN-1-AL	Leaf	--	--	Essent. Oil	
0	HEX-3-EN-1-OL	Flower	--	--	Essent. Oil	
0	HEX-3-EN-1-OL	Leaf	--	--	Essent. Oil	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	HEX-4-EN-1-OL	Flower Essent. Oil	--	--		
0	HEXACOSAN-1-OL	Flower	--	--		
0	HEXAN-1-AL	Flower Essent. Oil	--	--		
0	HEXAN-1-OL	Flower Essent. Oil	--	--		
0	HEXAN-1-OL	Leaf Essent. Oil	--	--		
0	HEXEN-2-AL	Plant	--	--		
0	HOTRIENOL	Flower Essent. Oil	--	--		
30	HYPEROSIDE	Plant	--	--	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health- care Professionals. The Pharmaceutical Press, London. 296pp.	
15	INDOLE	Leaf Essent. Oil	--	--		
0	INVERTOSE	Plant	--	--		
6	IRON	Fruit	15	90	-0.17048243955267198	
2	ISOAMYL-ACETATE	Flower Essent. Oil	--	--		
3	ISOAMYL-ALCOHOL	Flower Essent. Oil	--	--		

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	ISOAMYL-AMINE		Flower	--	--	
0	ISOAMYL-AMINE		Plant	--	--	
0	ISOBUTYL-AMINE		Flower	--	--	
22	ISOQUERCITRIN		Flower	--	--	
75	KAEMPFEROL		Flower	--	--	
8	LACTIC-ACID		Fruit	--	1800	
7	LAURIC-ACID		Flower	--	--	
7	LAURIC-ACID		Seed	--	--	
1	LEVULOSE		Fruit	21000	29000	-1
60	LIMONENE		Flower	--	--	
			Essent.			
			Oil			
53	LINALOOL		Flower	--	--	
			Essent.			
			Oil			
27	LINOLEIC-ACID		Flower	--	--	
27	LINOLEIC-ACID		Leaf	--	--	
0	LINOLENIC-ACID		Flower	--	--	
21	LUPEOL		Flower	--	--	
65	MAGNESIUM		Fruit	265	1635	-0.22909190199546076
15	MALIC-ACID		Fruit	1200	19000	0.2852247526927457
14	MANGANESE		Fruit	2	11	-0.3310049249023243
0	MARGARIC-ACID		Flower	--	--	
63	MENTHOL		Flower	--	--	
			Essent.			
			Oil			
2	METHYL-ISOBUTYL-KETONE		Flower	--	--	
			Essent.			
			Oil			
0	MONTANYL-ALCOHOL		Flower	--	--	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	MORRONISIDE			1400	1	
3	MUCILAGE	Shoot	--	--	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. <i>Herbal Medicine - A Guide for Health-care Professionals</i> . The Pharmaceutical Press, London. 296pp.	
22	MYRCENE	Flower	--	--	Essent. Oil	
6	MYRISTIC-ACID	Flower	--	--		
6	MYRISTIC-ACID	Seed	--	--		
0	N-HENEICOSANE	Flower	--	--	Essent. Oil	
3	N-HENTRIACONTANE	Leaf	--	--		
0	N-HEPTACOSANE	Leaf	--	--		Jim Duke's personal files.
0	N-HEPTADECANE	Flower	--	--	Essent. Oil	
2	N-HEXACOSANE	Leaf	--	--		Jim Duke's personal files.
1	N-NONACOSANE	Leaf	--	--		
0	N-NONADECANE	Flower	--	--	Essent. Oil	
0	N-OCTACOSANE	Leaf	--	--		Jim Duke's personal files.
0	N-OCTADECANE	Flower	--	--	Essent. Oil	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	N-PENTACOSANE			Leaf	--	--
						Chemical Constituents of Oriental Herbs (3 diff. books)
0	N-TETRADECANE			Leaf	--	--
				Essent.		
				Oil		
0	N-TRIACONTANE			Leaf	--	--
						Jim Duke's personal files.
0	N-TRICOSANE			Flower	--	--
				Essent.		
				Oil		
10	NEROL			Flower	--	--
				Essent.		
				Oil		
0	NEROL-OXIDE			Flower	--	--
				Essent.		
				Oil		
39	NIACIN			Fruit	4	7
					-0.7178505836876389	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
11	NICOTINIC-ACID			Fruit	--	--
0	NIGRIN-B			Bark	--	--
0	NIGRITIN-F-1			Fruit	--	--
0	NIGRITIN-F-2			Fruit	--	--
0	NONADECAN-1-OL			Flower	--	--
0	NONADECANOIC-ACID			Flower	--	--
2	OCIMENE			Flower	--	--
				Essent.		
				Oil		
0	OCTACOSAN-1-OL			Flower	--	--

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	OCTAN-1-AL				Flower --	--
					Essent. Oil	
64	OLEANOLIC-ACID				Flower --	--
64	OLEANOLIC-ACID				Bark --	503 -1
64	OLEANOLIC-ACID				Leaf --	--
18	OLEIC-ACID				Leaf --	--
18	OLEIC-ACID				Flower --	--
9	OXALIC-ACID				Fruit --	410 -0.283740659370344
25	P-COUMARIC-ACID				Flower --	--
						ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
13	PALMITIC-ACID				Leaf --	--
						Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
13	PALMITIC-ACID				Flower --	--
13	PALMITIC-ACID				Seed --	--
2	PALMITOLEIC-ACID				Flower --	--
2	PALMITOLEIC-ACID				Seed --	--
24	PECTIN				Flower --	--
						Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.

	Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
24	PECTIN		Leaf	2300	2300	-1.5375729434269683	Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
0	PENT-3-EN-2-ONE		Flower	--	--		
			Essent.				
			Oil				
0	PENTACOSAN-1-OL		Flower	--	--		
1	PENTADECANOIC-ACID		Flower	--	--		
0	PENTADECENOIC-ACID		Flower	--	--		
0	PENTENOL		Leaf	--	--		
			Essent.				
			Oil				
2	PHENYL-ACETALDEHYDE		Fruit	--	--		
2	PHENYL-ACETALDEHYDE		Leaf	--	--		
			Essent.				
			Oil				
4	PHOSPHORUS		Fruit	540	3300	0.0255157665019095	
0	PLASTOCYNIN		Flower	--	--		Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
14	POTASSIUM		Fruit	105	22090	0.369244042498007	
0	PROPIONIC-ACID-ETHYL-ESTER		Flower	--	--		
			Essent.				
			Oil				

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	PROPIONIC-ACID-PROPYL-ESTER				Flower Essent. Oil	-- --
0	PROTEIN	Fruit	19400	114910	0.0725429744274665	
0	PROTEIN	Seed	269000	269000	0.31315721071655006	
176	QUERCETIN	Leaf	--	--		
0	QUERCETIN-3-O-2(G)-RHAMNOSYL-RUTINOSIDE	Flower	--	--		
0	QUERCETIN-3-O-NEOHESPERIDOSIDE	Flower	--	--		
0	R-HOLOCALIN	Plant	--	--		Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
0	RESIN	Leaf	43400	43400	-0.5983063057309587	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.
15	RIBOFLAVIN	Plant	0.6	0.7	-0.7464596260374953	
0	RUBBER	Root	--	540	-0.3038660589351565	
87	RUTIN	Flower	19000	25000	-0.37410870193006646	
87	RUTIN	Leaf	210	9200	-0.43338842821411155	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
0	S-SAMBUNIGRIN			Leaf	--	420
					Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.	
0	SALICYLIC-ACID-METHYL-ESTER			Leaf	--	--
				Essent.		
				Oil		
0	SALICYLIC-ACID-METHYL-ESTER			Flower	--	--
				Essent.		
				Oil		
0	SAMBUBIOSE			Plant	--	--
0	SAMBUCINE			Bark	--	--
0	SAMBUCINE			Plant	1100	1100
0	SAMBUCULIN-A			Plant	--	--
0	SAMBUKYANIN			Plant	--	--
2	SAMBUNIGRIN			Leaf	420	420
14	SHIKIMIC-ACID			Plant	--	--
1	SODIUM			Fruit	75	535
					-0.1332173373035911	
8	STEARIC-ACID			Leaf	--	--
8	STEARIC-ACID			Plant	--	--
8	STEARIC-ACID			Flower	--	--
12	STIGMASTEROL			Leaf	--	--
12	STIGMASTEROL			Flower	--	--
14	SUCROSE			Fruit	700	9530
					-0.6792454901028104	
0	SUGAR			Fruit	47000	58000
					-0.8817872224910017	
35	TANNIN			Leaf	4400	30000
					-0.9831117667907324	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
23	TERPINEN-4-OL			Flower --	--	
0	TETRACOSAN-1-OL			Flower --	--	
31	THIAMIN		Plant 1	1	-0.5609871067944916	
0	TRANS-LINALOOL-OXIDE		Flower --	--		
0	TRANS-ROSE-OXIDE		Flower --	--		
0	TRICOSAN-1-OL		Flower --	--		
0	TRICOSANE		Flower 18720	18720	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.	
2	TRIDECANOIC-ACID		Flower --	--		
8	TYROSINE		Fruit --	--		
8	TYROSINE		Fruit 2200	2900	0.19942785780417618	
3	UNDECYLENIC-ACID		Seed --	--		
89	URSOLIC-ACID		Flower --	--		
89	URSOLIC-ACID		Leaf --	--		
89	URSOLIC-ACID		Bark --	--		
1	VALERIANIC-ACID		Fruit --	--		
0	WATER		Fruit 791000	819000	0.22185827349835952	

Chemical Plant Part		Low PPM	High PPM	StdDev	Reference	Citation
1	ZIERIN			Leaf	--	--
77	ZINC	Fruit	3	17	-0.40018873103446667	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. <i>Herbal Medicine - A Guide for Health-care Professionals</i> . The Pharmaceutical Press, London. 296pp.